

Microsoft PLR 4-2, Exhibit C: Mini Markman Preliminary Claim Construction – Claim Phrases¹

Claim Phrase	Microsoft's Preliminary Construction
<u>'93:1</u> <u>receiving a digital file</u> <u>including music</u>	<u>Claim as a Whole:</u> The recited method is performed within a VDE. <ol style="list-style-type: none"> 1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("receiving") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPP 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b). 2. The qualifier "including music" recites a non-functional descriptive material and is not a patentable limitation. 3. The recited function requires: obtaining a VDE secure container encapsulating a digital file, authenticating the intended recipient in accordance with VDE controls associated with the secure container, and accepting the secure container.

a budget specifying the number of copies which can be made of said digital file controlling the copies made of said digital file determining whether said digital file may be copied and stored on a second device based on at least said copy control

1. A budget identifying the total number of copies (whether or not decrypted, long-lived, or accessible) that (since creation of the budget) can be made of the digital file by any and all users, devices, and processes. No process, user, or device is able to make another copy of the digital file once this number of copies has been made.
1. Controlling uses of and accesses to all copies of the digital file, by all users, processes, and devices, by executing each of the recited "at least one" copy control(s) within VDE Secure Processing Environment(s). Each control governs (controls) only one action, which action may or may not differ among the different "at least one" controls. All uses and accesses are prohibited and incapable of occurring except to the extent allowed by the "at least one" copy control(s).
1. Determining whether this particular first device is allowed to perform both of the following actions on this particular digital file: (1) copy it and (2) store it (as opposed to a copy of it) on a second device, by executing one or more VDE control(s) (including "said" copy control associated with this digital file) within VDE Secure Processing Environment(s). To the extent that either of these two actions is not determined by this step to be permissible, that action is absolutely prohibited and incapable of occurring, and no user, process or device can perform it on this digital file.

¹ The word "invention" is used not to suggest that anything described in InterTrust's patents in fact was novel or non-obvious or inventive, but rather to identify what was described as the alleged invention. Also, features and capabilities are described as they are described in the InterTrust patent application, even though the patent application did not describe an actual working system having any of these capabilities. Also, Microsoft's proposed constructions use many terms from the InterTrust patents that are used inconsistently or otherwise indefinitely in the patents. Those terms are used by Microsoft in their narrowest applicable sense, and without waiving the right to assert the indefiniteness of this claim language. Also, the preliminary constructions assume (without conceding) that the February, 1995, Inter Trust patent application was incorporated by reference into the '721, '861, and '683 patents, effectively for claim construction purposes. If the Court concludes otherwise, then the proper constructions will be different in some cases. Bolded terms are preliminarily defined in Exhibits A-C of Microsoft's PLR 4-2 papers.

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<p>if said copy control allows at least a portion of said digital file to be copied and stored on a second device</p>	<p>2. This claim limitation's recitation of "said" copy control is inconsistent with the claim limitation "at least one" copy control.</p> <p>1. This "if" condition creates two branches for the recited process, each of which must be performed. Each time the "if" condition is met, all four of the later-recited actions (copying, transferring, storing, playing) must occur. Each time it is not met, each of these four actions must be prohibited and incapable of occurring.</p> <p>2. This "if" condition is met if and only if "said" copy control allows any portion of the digital file to be copied and also allows that same portion of the file (as opposed to the copy) to be stored on any second device. This "if" condition is based entirely on "said copy control" and thus is met, as above, even if other VDE control(s) prohibit those actions.</p> <p>3. This claim limitation's recitation of "copy control allows at least a portion" is inconsistent with the claim limitation "whether said digital file may be copied ... based on at least said copy control."</p>
<p>copying at least a portion of said digital file</p>	<p>1. Copying at least some portion of the digital file (as opposed to a copy thereof), by executing VDE control(s) within VDE Secure Processing Environment(s). This copied "portion" may or may not be (or even include) the portion referred to in the claim limitation "if said copy control allows at least a portion."</p>
<p>transferring at least a portion of said digital file to a second device</p>	<p>1. Transferring to some second device (which may or may not be the "second device" referred to in the claim limitation "if said copy control allows at least some portion of the digital file (as opposed to a copy thereof), by executing VDE control(s) within VDE Secure Processing Environment(s)). This transferred portion may or may not be (or even include) the portion referred to in the claim limitation "if said copy control allows at least a portion," or the portion referred to in the claim limitation "copying at least a portion."</p>
<p>storing said digital file</p>	<p>1. Storing the entire digital file received in the "receiving" step (as opposed to a copy of the file or an incomplete portion of the file).</p> <p>2. This claim limitation's recitation of "storing said digital file" is inconsistent with the claim limitation "transferring at least a portion of said digital file."</p> <p><u>'193:11</u></p> <p><u>Claim as a Whole:</u> The recited method is performed within a VDE.</p> <p><u>receiving a digital file</u></p> <p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("receiving") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).</p> <p>2. The recited function requires: obtaining a VDE secure container encapsulating a digital file, authenticating the intended recipient in accordance with VDE controls associated with the secure container, and accepting the secure container.</p> <p>determining whether said digital file may be copied</p> <p>1. Determining whether said first control, by itself, allows this particular first device to perform both of the following actions on this particular digital file: (1) copy it and (2) store it (as opposed to a copy of it) on a second device, by executing the first VDE control within VDE Secure Processing</p>

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and stored on a second device based on said first control identifying said second device	Environment(s). To the extent that either the copy or store action is not determined by this step to be permissible, that action is absolutely prohibited and incapable of occurring, and no user, process or device can perform it on this digital file.
whether said first control allows transfer of said copied file to said second device	1. Identifying a second device sufficiently to distinguish it from all other devices, by executing VDE control(s) within VDE Secure Processing Environment(s).
said determination based at least in part on the features present at the device if said first control allows at least a portion of said digital file to be copied and stored on a second device	1. Whether the first control, by itself, allows the entire digital file (which has been copied at least once) (as opposed to the copy) to be moved to the identified second device. If not, that transfer is absolutely prohibited and incapable of occurring and no user, process or device can perform that action on this file.
	1. Basing the determination at least in part upon all actual, current features of the device (as opposed to previously determined, reported, or measured features) which might affect the device's ability to prevent unauthorized access to and/or use of the digital file. This determination is done without trusting either the device or any user of the device. A device identifier such as a serial number is not a "feature present at the device."
	1. This "if" condition creates two branches for the recited process, each of which must be performed. Each time the "If" condition is met, all four of the later-recited actions (copying, transferring, storing, rendering) must occur. Each time it is not met, each of these four actions must be disabled and prohibited and incapable of occurring.
	2. This "if" condition is met if and only if the first control allows any portion of the digital file to be copied and also allows that same portion of the file (as opposed to the copy) to be on any second device. This "if" condition is based entirely on the first control and thus is met, as above, even if other VDE controls prohibit those actions.
	3. This claim limitation's recitation of "said first control allows at least a portion" is inconsistent with the claim limitation "whether said digital file may be copied ... based on said first control."
copying at least a portion of said digital file	1. Copying at least some portion of the digital file (as opposed to a copy thereof), by executing VDE control(s) within VDE Secure Processing Environment(s). The copied portion may or may not be (or even include) the portion referred to in the claim limitation "if said first control allows at least a portion."
transferring at least a portion of said digital file to a second device	1. Transferring to some second device (which may or may not be the "second device" referred to in the claim limitation "if said first control allows at least a portion of said digital file to be copied and stored on a second device") at least some portion of the digital file (as opposed to a copy thereof), by executing VDE control(s) within VDE Secure Processing Environment(s). The transferred portion may or may not be (or even include) the portion referred to in the claim limitation "if said first control allows at least a portion," or the portion referred to in the claim limitation "copying at least a portion."
storing said digital file	1. Storing the entire digital file received in the "receiving" step (as opposed to a copy of the file or an incomplete portion of the file).

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	2. This claim limitation's recitation of "storing said digital file" is inconsistent with the claim limitation "transferring at least a portion of said digital file."
<u>193:15</u> receiving a digital file an authentication step comprising:	<p><u>Claim as a Whole:</u> The recited method is performed within a VDE.</p> <p>1. See 193:11. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).</p> <p>1. Authenticating the first device and/or user of the first device without relying on trusting either, by executing VDE control(s) within VDE Secure Processing Environment(s).</p>
accessing at least one identifier associated with a single ("first") device or (as opposed to "and") with a single, current user of that device, by executing VDE control(s) within VDE Secure Processing Environment(s). One of the "at least one identifier" may be associated with a first device while another of the "at least one identifier" may be associated with a user of said first device.	<p>1. Securely accessing at least one identifier associated with a single ("first") device or (as opposed to "and") with a single, current user of that device, by executing VDE control(s) within VDE Secure Processing Environment(s). One of the "at least one identifier" may be associated with a first device while another of the "at least one identifier" may be associated with a user of said first device.</p> <p>1. For each accessed "at least one identifier," determining whether the device with which it is associated is one on which the file may be stored (by any user) and/or whether the user with which it is associated is one who may store the file (on any device), by executing VDE control(s) within VDE Secure Processing Environment(s). Each identifier may be associated with a device "and" a user, or with a device only, or with a user only.</p> <p>2. This claim limitation's recitation of "said identifier" is inconsistent with the claim limitation "at least one identifier."</p>
determining whether said identifier is associated with a device and/or user authorized to store said first device	<p>1. This conditional step creates at least two "authentication" branches for the recited process, each of which must be performed. Each time the condition is met, the recited "storing" must occur. Each time it is not met, the recited "storing" must not occur.</p> <p>2. If "storing" proceeds, then: storing in a secure memory of the first device, the entire file received in the "receiving" step, as opposed to a copy of the file or an incomplete portion of the file, by executing VDE control(s) within VDE Secure Processing Environment(s). If "storing" does not proceed: then the file is not stored in the secure memory of the first device, and is absolutely prevented from being stored anywhere on the first device.</p> <p>3. This limitation is internally inconsistent on the circumstances under which the storing proceeds or does not proceed. For example, the first ("only if") phrase requires that the storing step proceeds if the device is authorized (and the user is not) while the second ("but not") phrase requires that the storing step not proceed if the device is authorized (and the user is not).</p>
storing information associated with said digital file in a secure database stored on said first device, said information including	<p>1. Storing information in a secure database, the entirety of information (including the "at least one control") being associated with the digital file (as opposed to the file's contents independent of the file), by executing VDE control(s) within VDE Secure Processing Environment(s).</p> <p>2. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).</p>

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at least one control determining whether said digital file may be copied and stored on a second device based on said at least one control	<p>1. Determining whether the "at least one control," by itself or themselves, allow(s) this particular first device to perform both of the following actions on this particular digital file: (1) copy it and (2) store it (as opposed to a copy of it) on a second device, by executing "said at least one control," by executing the "at least one" VDE control within VDE Secure Processing Environment(s). To the extent that either the copy or store action is not determined by this step to be permissible, that action is absolutely prohibited and incapable of occurring, and no user, process or device can perform it on this digital file.</p> <p>2. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).</p> <p>If said at least one control allows at least a portion of said digital file to be copied and stored on a second device,</p> <p>1. This "if" condition creates two branches for each of the two "authentication branches" of the recited process (and thus four branches in all), each of which must be performed. Each time it is met, all four of the later-recited actions (copying, transferring, storing, rendering) must occur. Each time it is not met, each of these four actions must be prohibited and incapable of occurring.</p> <p>2. This "if" condition is met if and only if the at least one control allows any portion of the digital file to be copied and also allows that same portion of the file (as opposed to the copy) to be stored on any second device. This "if" condition is based entirely on the at least one control and thus is met, as above, even if other VDE controls prohibit those actions.</p> <p>3. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).</p> <p>4. This claim limitation's recitation of "at least one control allows at least a portion of said digital file" is inconsistent with the claim limitation "whether said digital file may be copied ... based on said at least one control."</p> <p>copying at least a portion of said digital file</p> <p>1. Copying at least some portion of the digital file (as opposed to a copy thereof), which portion may or may not be (or even include) the portion referred to in the claim limitation "if said at least one control allows at least a portion," by executing VDE control(s) within VDE Secure Processing Environment(s).</p> <p>2. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).</p> <p>transferring at least a portion of said digital file to a second device</p> <p>1. Transferring to some second device (which may or may not be the "second device" referred to in the claim limitation "if said at least one control" allows at least a portion of said digital file to be copied and stored on a second device") at least some portion of the digital file (not a copy thereof), by executing VDE control(s) within VDE Secure Processing Environment(s). The transferred portion may or may not be (or even include) the portion referred to in the claim limitation "if said at least one control allows at least a portion," or the portion referred to in the claim limitation "copying at least a portion."</p> <p>2. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).</p> <p>storing said digital file</p> <p>1. Storing the entire digital file received in the "receiving" step (as opposed to a copy of the file or an incomplete portion of the file).</p>

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<p>2. This step must proceed in both "authentication branches" of the process (i.e., regardless of the outcome of the "authentication" step).</p> <p>3. This claim limitation's recitation of "storing said digital file" is inconsistent with the claim limitation "transferring at least a portion of said digital file."</p>	<p><u>Claim as a Whole:</u> The recited method is performed within a VDE.</p> <p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("receiving") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).</p> <p>2. The recited function requires: obtaining a VDE secure container encapsulating a digital file, authenticating the first device in accordance with VDE controls associated with the secure container, and accepting the secure container.</p> <p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("establishing communication") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by the Remote Procedure Call Manager 732 software of Rights Operating System 602 that controls I/O controller 660 and Communications Controller 666.</p> <p>2. The recited function is: creating and using a previously non-existent communications channel which is necessary and sufficient for exchanging information between the first device and a clearinghouse.</p> <p>1. A user, process or device uses all of said authorization information in connection with executing VDE control(3) within VDE Secure Processing Environment(s) to gain access to or (as opposed to "and") make at least one use of the file received in the "receiving" step. Without using such authorization information, no access to or use of the file is allowed.</p> <p>1. The "at least one use of said digital file" must encompass decrypting at least a portion of the digital file using the key.</p> <p>using said authorization information to gain access to or make at least one use of said first digital file including using said key to decrypt at least a portion of said first digital file receiving a first control from said clearinghouse at said first device</p> <p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("receiving") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).</p> <p>2. The recited function requires: obtaining a VDE secure container encapsulating a first control, authenticating the first device in accordance with VDE controls associated with the secure container, and accepting the secure container.</p>
<p>storing said first digital file</p>	<p>1. Storing in a memory of the first device, the entire digital file (as opposed to any incomplete portion thereof) received in the "receiving" step, by</p>

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in a memory of said first device using said first control to determine whether said first digital file may be copied and stored on a second device	executing VDE control(s) within VDE Secure Processing Environment(s).
	1. Determining whether the first control, by itself, allows this particular first device to perform both of the following actions on this particular digital file: (1) copy it and (2) store it (as opposed to a copy of it) on a second device, by executing the first VDE control within VDE Secure Processing Environment(s). To the extent that either the copy or store action is not determined by this step to be permissible, that action is absolutely prohibited and incapable of occurring, and no user, process or device can perform it on this digital file.
if said first control allows at least a portion of said first digital file to be copied and stored on a second device	1. This "if" condition creates two branches for the recited process, each of which must be performed. Each time the "if" condition is met, all four of the later-recited actions (copying, transferring, storing, rendering) must occur. Each time it is not met, each of these four actions must be prohibited and incapable of occurring. 2. This "if" condition is met if and only if the first control allows any portion of the first digital file to be copied and also allows that same portion of the file (as opposed to the copy) to be stored on any second device. This "if" condition is based entirely on the first control and thus is met, as above, even if other VDE controls prohibit those actions. 3. This claim limitation's recitation of "first control allows at least a portion of said first digital file" is inconsistent with the claim limitation "whether said first digital file may be copied . . . on a second device."
copying at least a portion of said first digital file	1. Copying at least some portion of the digital file (as opposed to a copy thereof), which portion may or may not be (or even include) the portion referred to in the claim limitation "if said first control allows at least a portion," by executing VDE control(s) within VDE Secure Processing Environment(s).
transferring at least a portion of said first digital file to a second device including a memory and an audio and/or video output storing said first digital file portion	1. Transferring to some second device (which may or may not be the "second device" referred to in the claim limitation "if said first control allows at least a portion of said digital file to be copied and stored on a second device") at least some portion of the digital file (not a copy thereof), by executing VDE control(s) within VDE Secure Processing Environment(s). The transferred portion may or may not be (or even include) the portion referred to in the claim limitation "if said first control allows at least a portion," or the portion referred to the above limitation "copying at least a portion."
'683:2 user controls	1. Storing the "at least a portion" which was transferred to the second device, of the digital file received in the "receiving" step (as opposed to a copy of the file).
the first secure container having been received from a	Claim as a Whole: The "system" is a VDE. 1. [This shall be construed as a disputed claim term.] 1. The "first secure container" must identify the single apparatus from which it was received, and that apparatus must be different from the first apparatus. Alternatively, if the Court does not construe this claim language as requiring the "first secure container" to identify the single apparatus

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<u>second apparatus</u>	<p>from which it was received: This claim language has no patentable weight. It recites a step taken in the creation of the recited system, not a structural or functional characteristic of the system. One studying a particular system (as opposed to the process by which it was created) to compare it to the claimed system, could not distinguish a secure container received from another apparatus from, e.g., a secure container created on the first apparatus, and thus could not determine whether this step was satisfied.</p>
	<p>2. Receiving the secure container includes authenticating the intended recipient in accordance with VDE controls associated with the secure container. The first secure container may be received as bar codes in a fax transmission, or filled ovals on a form delivered through physical mail.</p>
<u>an aspect of access to or use of</u>	<p>1. Any one (as opposed to more than one) aspect of any access to or (as opposed to "and") use by any and all processes, users, and devices.</p>
<u>the first secure container rule having been received from a third apparatus different from said second apparatus</u>	<p>1. The "first secure container rule" must have been received encapsulated within a VDE secure container, and the intended recipient must have been authenticated in accordance with VDE controls associated with the secure container, and the "first secure container rule" must have been accepted by the first apparatus. The "first secure container rule" must identify the single apparatus from which it was received, and that apparatus must be different from the first apparatus.</p>
	<p>2. Alternatively, if the Court does not construe this claim language as requiring the "first secure container" to identify the single apparatus from which it was received: This claim language has no patentable weight. It recites a step taken in the creation of the recited system, not a structural or functional characteristic of the system. One studying a particular system (as opposed to the process by which it was created) to compare it to the claimed system, could not distinguish a secure container rule received from another apparatus from, e.g., a secure container rule created on the first apparatus, and thus could not determine whether this step was satisfied.</p>
<u>hardware or software used for receiving and opening secure containers</u>	<p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites an undefined mechanism ("hardware or software") for performing a function (e.g., "opening") without reciting particular structure that performs that function. The specification does not clearly link any particular structure to this recited function. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).</p>
	<p>2. The recited function requires: the same single logical piece of either hardware or software (as opposed to both) must be capable of both receiving and opening secure containers, this "receiving" including authenticating the intended recipient in accordance with VDE controls associated with the secure container, and this "opening" performed by executing VDE control(s) within VDE Secure Processing Environment(s).</p>
	<p>1. Each secure container which the "hardware or software used for receiving and opening secure containers" is capable of receiving and opening must have the capacity to contain a governed item, and must have associated with it (as opposed to any particular governed item) a secure container rule.</p>
	<p>said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers</p>

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<p>protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus</p> <p>hardware or software used for applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container</p>	<p>1. A single VDE Secure Processing Environment, in addition to and not within the first apparatus, actively preventing (not merely being capable of preventing, and not merely resisting) any "user" of the first apparatus from tampering with any and all information encapsulated by the Secure Processing Environment (as opposed to tampering with the Secure Processing Environment itself). Other components may or may not provide part of this protecting function.</p> <p>2. The protecting function is provided by use of the disclosed "component assembly" (VDE controls), "secure container," "protected processing environment," "object registration," and other mechanisms of the purported "VDE" "invention" for allegedly individually ensuring the "access control" "handcuffs" between specific "controls," specific "objects" (and their content at an arbitrary granular level), and specific "users."</p> <p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites an undefined mechanism ("hardware or software") for performing a function ("applying ... in combination") without reciting a particular structure that performs that function. The specification does not clearly link any particular structure to this recited function. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).</p> <p>2. The recited function requires: a single logical piece of either hardware or software (as opposed to both) to apply the two separate rules in combination by assembling and executing a single control, and to govern any one or more aspects of any access or use by any process or user or device, of a governed item contained in a secure container (which may or may not be any "secure container" recited earlier). Other components may or may not provide part of the governing function. This "hardware or software" performs its functions by executing VDE control(s) within VDE Secure Processing Environment(s).</p> <p>1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites an undefined mechanism ("hardware or software") for performing a function (e.g., "transmission") without reciting a particular structure that performs that function. The specification does not clearly link any particular structure to this recited function. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b).</p> <p>2. The recited function requires: a single logical piece of either hardware or software (as opposed to both) is capable of both transmission and receipt of secure containers, this receipt including authenticating the intended recipient in accordance with VDE controls associated with the secure container. This "hardware or software" is separate from and in addition to the first apparatus, the recited protected processing environment, and the recited "hardware or software used for receiving and opening secure containers." The transmission and receipt of the secure containers may be via bar codes in a fax transmission, or filled ovals on a form delivered through physical mail. This "hardware or software" performs its functions by executing VDE control(s) within VDE Secure Processing Environment(s).</p>
<p>"721:1"</p> <p>digitally signing a first load module with a first digital signature designating the</p>	<p>Claim as a Whole: The recited method is performed within a VDE.</p> <p>1. Digitally signaling a particular ("first") load module by using a first digital signature as the signature key, which signing indicates to any and all devices in the first device class that the signor authorized this load module for use by that device. No VDE device can perform any execution of any load module without such authorization. The method ensures that the load module cannot execute in a particular device class and ensures that no</p>

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<p>first load module for use by a first device class digitally signing a second load module with a second digital signature different from the first digital signature, the second digital signature designating the second load module for use by a second device class having at least one of tamper resistance, and security level different from the at least one of tamper resistance and security level of the first device class distributing the first load module for use by at least one device in the first device class</p>	<p>device in that device class has the key(s) necessary to verify the digital signature.</p> <ol style="list-style-type: none"> 1. Digital signing a different ("second") load module by using a different ("second") digital signature as the signature key, which signing indicates to any and all devices in the second device class that the signor authorized this load module for use by that device. No VDE device can perform any execution of any load module without such authorization. The method ensures that the load module cannot execute in a particular device class and ensures that no device in that device class has the key(s) necessary to verify the digital signature. 2. All devices in the first device class have the same persistent (not just occasional) and identified level of tamper resistance and/or same persistent and identified level of security. All devices in the second device class have the same persistent and identified level of tamper resistance and/or same persistent and identified level of security. The identified level of tamper resistance and/or identified level of security for the first device class, is greater or less than the identified level of tamper resistance and/or identified level of security for the second device class.
<p>distributing the second load module for use by at least one device in the second device class</p>	<p>1. The first load module, digitally signed as indicated above, is transmitted to at least one device in the first device class.</p>
<p><u>*71134</u></p>	<p><u>Claim as a Whole:</u> The "protected processing environment" is part of and within VDE.</p> <ol style="list-style-type: none"> I. The arrangement is located and executed wholly within the first tamper resistant barrier. <p>I. "A second secure execution space having a second security level different from the first security level": a second secure execution space (different from the first secure execution space) is part of the protected processing environment, and has a tamper resistant barrier (different from the first tamper resistant barrier) which has a persistent (not just occasional) security level greater or less than the first persistent security level.</p>

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<p>space having a second tamper resistant barrier with a second security level different from the first security level</p> <p><u>'861:58</u></p> <p>creating a first secure container</p> <p>including or addressing . . . organization information . . . desired organization of a content section . . . and metadata information at least in part specifying at least one step required or desired in creation of said first secure container</p> <p>at least in part determine specific information required to be included in said first secure container contents</p> <p>rule designed to control at least one aspect of access to or use of at least a portion of said first secure container contents</p> <p><u>'891:1</u></p> <p>resource processed in a secure operating</p>	<p>2. "The same executable accessed by": the same executable (as opposed to, e.g., two copies of the same executable) is simultaneously accessed by both the first secure execution space and the second secure execution space.</p> <p>3. "Prevents the first secure execution space from executing": the arrangement prevents the first secure execution space, otherwise capable of executing the executable, from executing any part of the executable (e.g., on behalf of any user, process, or device).</p> <p>Claim as a Whole: The recited method is performed within a VDE.</p> <p>1. This preamble language is a claim limitation.</p> <p>2. Completely forming (as opposed to defining) a secure container within a VDE Secure Processing Environment(s).</p> <p>1. The same single descriptive data structure must either contain within its confines or address both organization information and metadata information.</p> <p>2. Both the "desired" organization of the content section and also the "desired" step, occur after the descriptive data structure is accessed, not before.</p> <p>3. The metadata information specifies a procedure, as opposed to a result or a data item.</p> <p>1. The metadata information is used to determine the specific value, not merely the kind, of at least some of the information that must be placed inside the secure container.</p> <p>2. The use of the metadata information actively requires the secure container creation steps to add this specific information to the first secure container, as opposed to the specific information being within the secure container for some other reason.</p> <p>1. A rule designed for these particular secure container contents, which is used (by VDE control(s) executing in VDE Secure Processing Environments)) to limit access to or use of at least a portion of the contents of the first secure container (by all users, processes, and devices). Without compliance with this rule, no process, user, or device is able to take the controlled access or use action.</p> <p>Claim as a Whole: The recited method is performed within a VDE.</p> <p>1. This preamble language is a claim limitation.</p> <p>2. A component part of a first appliance's secure operating environment which is processed within that secure operating environment's special-</p>

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environment at a first appliance <u>securely receiving a first entity's control at said first appliance</u>	<p>purpose Secure Processing Unit. A Secure Processing Unit is a special-purpose unit isolated from the rest of the world in which a hardware tamper-resistant barrier encapsulates a processor and internal secure memory. The barrier prevents all unauthorized interference, removal, observation, and use of the information and processes within it. The processor cryptographically verifies the integrity of all code loaded from the secure memory prior to execution, executes only the code that the processor has authenticated for its use, and is otherwise secure.</p> <ol style="list-style-type: none"> 1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("securely receiving") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b). 2. The recited function requires: A first appliance obtaining a VDE secure container encapsulating a control created, selected, or modified by a first entity, as part of a communication encrypted on the communications level, authenticating the first appliance in accordance with VDE controls associated with the secure container, and accepting the secure container.
<u>securely receiving a second entity's control at said first appliance</u>	<ol style="list-style-type: none"> 1. This claim language falls within 35 U.S.C. § 112, ¶ 6. It recites a step or result ("securely receiving") without reciting an action that achieves that result. The specification does not clearly link any particular action to this recited step. Part of the recited function is performed by Communications Controller 666, I/O Controller 600, SPE 503/SPU 500 (particularly "SPU Encryption/Decryption Engine 522" and NVRAM 534b). 2. The recited function requires: A first appliance obtaining a VDE secure container encapsulating a control created, selected, or modified by a second entity, as part of a communication encrypted on the communications level, authenticating the first appliance in accordance with VDE controls associated with the secure container, and accepting the secure container.
securely processing a data item at said first appliance, using at least one resource	<ol style="list-style-type: none"> 1. Performing an operation, inside the special-purpose Secure Processing Unit of the first appliance, on a data item inside the Secure Processing Unit. The operation cannot be observed from outside the SPU and is performed only after the integrity of the program code for performing such operation is cryptographically verified. A Secure Processing Unit is a special-purpose unit isolated from the rest of the world in which a hardware tamper-resistant barrier encapsulates a processor and internal secure memory. The barrier prevents all unauthorized interference, removal, observation, and use of the information and processes within it. The processor cryptographically verifies the integrity of all code loaded from the secure memory prior to execution, executes only the code that the processor has authenticated for its use, and is otherwise secure. 1. Processing the resource (component part of a first appliance's secure operating environment) within the secure operating environment's special-purpose Secure Processing Unit to execute the first control and second control in combination within the SPU. This execution of these controls governs all use of the data item by all users, processes, and devices. The processing of the resource and execution of the controls cannot be observed from outside the SPU and is performed only after the integrity of the resource and controls is cryptographically verified. A Secure Processing Unit is a special-purpose unit isolated from the rest of the world in which a hardware tamper-resistant barrier encapsulates a processor and internal secure memory. The barrier prevents all unauthorized interference, removal, observation, and use of the information and processes within it. The processor cryptographically verifies the integrity of all code loaded from the secure memory prior to execution, executes only the code that the processor has authenticated for its use, and is otherwise secure.

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<p>900:1:55</p> <p>first host processing environment comprising said mass storage storing tamper resistant software designed to be loaded into said main memory and executed by said central processing unit said tamper resistant software comprising: . . . one or more storage locations storing said information derives information from one or more aspects of said host processing environment, one or more storage locations storing said information previously stored in said one or more storage locations generates an indication based on the result of said comparison programming which takes one or more actions based</p> <p>Claim as a Whole: The "virtual distribution environment" is VDE.</p> <p>1. A host processing environment that encompasses the recited computer hardware (central processing unit, main memory, and mass storage) and certain VDE Protected Processing Environment software loaded in that main memory and executing in that central processing unit, but does not encompass software, such as the recited tamper resistant software, which is stored in mass storage and not executing.</p> <p>1. The tamper resistant software is physically stored within, as opposed to being merely addressed by, the mass storage.</p> <p>1. The tamper resistant software is capable of being loaded into only said main memory and is capable of being executed only by said central processing unit.</p> <p>1. The tamper resistant software within said mass storage includes one or more storage locations within it. These storage locations are designated to store, and must store, information derived by the machine check programming, and must not store any other information.</p> <p>1. Deriving from the host processing environment hardware one or more values that uniquely and persistently identify the host processing environment and distinguish it from other host processing environments.</p> <p>2. The "one or more aspects of said host processing environment" are distinguishing components or parts of the host processing environment itself, as opposed to, e.g., data or programs stored within the mass storage or main memory, or processes executing within the host processing environment.</p> <p>1. One or more logical storage locations within the tamper resistant software storing only information derived by the machine check programming.</p> <p>1. Any information once stored in said "one of more storage locations storing said information," but not stored therein when the recited comparison occurs.</p> <p>1. Producing an indication based solely on the result of the "compares" step. There are only two possible indications: the comparison found an exact match, or it did not. The "indication" need not be displayed to a user.</p> <p>1. Executable programming code that is a part of the tamper resistant software, when executed, and not a part of the host processing environment. Whenever the recited indication is generated, no matter what it indicates, this code (executing on the CPU for which it was designed</p>	

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on the state of said indication at least temporarily halting further processing identifying at least one aspect of an execution space required for use and/or execution of the load module	<p>and loaded in the memory for which it was designed) must take an action, or more than one action. The particular action(s) taken must be based solely on the state of that indication.</p> <p>1. The action(s) taken by this programming must encompass halting or temporarily halting all further processing of the host processing environment and any processes running within it.</p>
'912:8	<p><u>Claim as a Whole:</u> The recited method is performed within a VDE.</p>
identifying at least one aspect of an execution space required for use and/or execution of the load module	<p>1. Defining fully, without reference to any other information, at least one of the persistent features (aspects) of an execution space that are required for any use, and/or for any execution, of the load module. An execution space without all of those required aspects is incapable of making any such use (e.g., copying, displaying, printing) and/or execution of the load module.</p>
said execution space identifier provides the capability for distinguishing between execution spaces providing a higher level of security and a lower level of security	<p>1. The execution space identifier, by itself, provides the load module with the capability of determining the persistent level of security of any execution space in which it is loaded, and of distinguishing between any two execution spaces based on their respective, determined persistent (not just occasional) "levels of security." This capability extends to at least two execution spaces providing a higher level of security and at least two execution spaces providing a lower level of security.</p>
'912:35 received in a secure container said component assembly allowing access to or use of specified information said first component	<p>Before executing any executable programming encompassed within any element which is directly or indirectly identified by any information contained within the first record, evaluating, within a VDE Secure Processing Environment, the values and formats of all data fields within the first record and confirming that they have legitimate values and formats.</p> <p><u>Claim as a Whole:</u> The recited method is performed within a VDE.</p> <p>1. The first processing environment obtained a VDE secure container encapsulating the record inside, and authenticated the intended recipient in accordance with VDE controls associated with the secure container, and accepted the secure container.</p> <p>1. The component assembly identifies specific information over which it (by itself and with no other information), executing in a VDE Secure Processing Environment, allows access or use (as opposed to access "and" use). Unless allowed by the component assembly, no user, process, or device is able to access or use the specified information. The component assembly is associated with and dedicated to this particular specified information.</p> <p>1. The first record by itself contains sufficient information to unambiguously identify the assembled component assembly, including all of its</p>

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assembly specified by said first record	elements. 2. This limitation is inconsistent with the recitation "first record containing identification information directly or indirectly identifying one or more elements of first component assembly."